

STATE OF IOWA IT INVESTMENT REQUEST: # 17
APPROVAL TO INITIATE COVER PAGE

Field Asset Inventory and Inspection Application

Iowa Department of Transportation
Highway Division/Division of Performance and Technology
Office of Maintenance/Organizational Improvement Unit

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SECTION 1: APPROVAL TO INITIATE (PROJECTS)

1. **Project Name:** *Provide a brief title for this project.*

Field Asset Inventory and Inspection Application

2. **Problem Statement:** *What is the need? What is the purpose of this project? Describe the business need.*

Iowa Department of Transportation highway maintenance personnel are requesting assistance improving the current process to collect inventory and inspection information for culverts, signs, and other roadway features which are required to be inspected and maintained.

The DOT conducted significant research and has determined that there is need for a standardized collection system which can be used by maintenance staff in the field, across the state, to collect standardized inventory and inspection information. Furthermore, our research indicates that tablet devices are a user-friendly and cost-effective way to accomplish this need. The purpose of this project is to develop a tablet application which can be used to collect and manage data for a range of roadway assets.

3. **Project Description:** *What are the project goals? Goals are high level and provide a context for the project. More detailed information about the project is described in the success criteria.*

The primary goal of this project is development of a platform-neutral tablet device application which can be used for inspection and inventory of roadway assets.

Features identified as requirements: touch-based, leverage device GPS and camera, able to operate with or without a live data connection, utilize the DOT's Linear Referencing System road network, leverage existing IT/GIS infrastructure, data not in a proprietary format (API to connect with other systems).

4. **Alignment with agency or Governor's strategic plan:** *Describe the specific agency or Governor strategic plan items that this problem's resolution will help address. <https://governor.iowa.gov/>*

15% reduction in cost of government – having a comprehensive knowledge of the location and condition of roadway assets allows the DOT to make better decisions about resource allocation and investment prioritization.

5. **Potential Solutions:** *Agencies are not expected to have a solution in mind but it is important to know if there are any identified solutions. Are you aware of any potential solutions? If so, describe. Are you aware of any off-the-shelf software solutions or another system in use at another Iowa department or in another State?*

The project team has spent the last two years on research projects to identify the most appropriate method for field data collection. In terms of hardware, tablet devices were identified as the most practical option. A successful prototype application was developed for field inspection and inventory of culverts, signs, and guardrail. The research project has come to an end and the results indicate that there is a need to deploy a solution to standardize field inventory and inspection. There are known "commercial off-the-shelf" (COTS) software solutions that could meet the requirements identified in the research phase.

6. **Benefits Summary:** *What are your success criteria? Describe specific benefits and how these will be measured and reported. Who are the customers of this project and how do they benefit? Project benefits are outcomes. What does success look like?*

Benefits of the application development include:

- Field maintenance staff needs a tool to help them efficiently meet the requirements of Instructional Memoranda (IM's) relative to inspection and reporting of asset condition. This application will provide for centralized accumulation of such data to provide for analysis of progress in these inspections and centralized reporting of asset condition.
- Standardization of data in a usable form and accessible to an overall asset management data system.

- Concise and accurate condition of roadway features that can be used to develop maintenance plans.
- Appropriate prioritization and selection of replacement/rehabilitation investments.
- Centralizing asset information useful for engineers and technicians to use in Computer Aided Design (CAD).
- Centralized documentation of condition over time in the event of legal action.
- Demonstrating adherence to maintenance and safety standards.

7. Project Impact: *What is the impact if this project/purchase is not approved? Loss of funding? Risk to the public or other risks identified? Are there any funding/legislative deadlines that impact this request? Are there organizational/staffing changes impacting the request?*

Currently our field supervisors make a best educated guess for where to apply available roadway maintenance resources. This system would allow supervisors and management to make data-driven decisions based on current asset condition.

8. Project Technology (Optional Response): What technologies will be used in the project? Describe any departmental application or technology standards or expectations. Since the purpose of the project request is to identify projects at a very early stage technologies may not be known at this time.

Iowa DOT deployed 100+ iPad tablets to our field maintenance staff in September of 2013. These will be used for winter road condition reporting, however they are also intended to be used to support future field asset condition efforts and will be used this fall and spring with temporary fee-for-service software to continue to collect asset information on a limited scale. The application developed by this project must be iPad compatible; however as the hardware options continue to evolve at a rapid pace, it is important that this application is not tied to a single operating system platform.

9. Estimated total Project Costs (Optional Response): Provide a high level estimate or range. Project costs include hard dollar expenses for hardware, software and services AND soft expenses of internal staff time.

If costs unknown, indicate here __unknown although \$250,000 is allocated for the current fiscal year.

Project cost (if known): \$ _____

10. Funding Source: List all sources, if known (i.e. Iowa Access, Pool, Federal Grant, Unknown, etc.). How will the investment be sustained?

DOT management has determined that this project is a priority and funds are set aside for the current fiscal year in the DOT operational budget. Additional funds may need to be identified for the remainder of any contract should the project extend beyond June, 2014, however it is anticipated that the DOT operating budget would continue be the source of funds.

SECTION 1A: APPROVAL TO INITIATE (REQUEST FOR HARDWARE/SOFTWARE PURCHASE ONLY)

1. Problem Statement: *What is the need? What is the purpose of this product? Describe the business need.*

[NA

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2. Describe the product (hardware/software): *Include make, model, and vendor where appropriate.*

[NA

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3. Project Impact: *What is the impact if this purchase is not approved? Loss of funding? Risk to the public or other risks identified? Are there any funding/legislative deadlines that impact this request? Are there organizational/staffing changes impacting the request?*

[NA

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4. Cost of hardware/software: *Provide the total cost for the product or attach a purchase order.*

[NA

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5. Funding Source: *List all sources, if known (i.e. Iowa Access, Pool, Federal Grant, Unknown, etc.). How will the investment be sustained?*

[NA

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Recommendation of the State CIO to the DAS Director:

Authorize this IT procurement Yes X No ____

Alternatives suggested by the State CIO
(see comments below) Yes ____ No X

Additional comments from the State CIO:

IPSC recommends approval. TEC recommends approval, CIO subsequently approved.

DAS Director's action:

Authorize this IT procurement Yes X No ____

DAS Director's signature and date: **Approved by Director Carroll (via Lon Anderson) on September 27, 2013**

Comments: **None**